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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,575

04/18/2005

Takashi Noro

123532

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25944

7590

06/11/2007

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

LAMB, BRENDA A

ART UNIT

PAPER NUMBER

1734

MAIL DATE

DELIVERY MODE

06/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/531,575

Applicant(s)

NORO ET AL.

Examiner

Brenda A. Lamb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/14/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/18/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/18/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 16-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 08-323727.

Japan '727 teaches a process and apparatus of a coating apparatus which is comprised of the following elements: a holding means which holds the pillar structure in nearly vertical direction and rotates together with the held pillar structure on an axis of nearly vertical direction as a common rotating axis, a supplying and coating means which is disposed at a given position with respect to the outer peripheral surface of the pillar structure and supplies a coating material to the outer peripheral surface of the

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rotating pillar structure and coats the coating material on the outer peripheral surface, and a smoothing means which smoothes the coating surface of the coating material supplied to and coated on the outer peripheral surface, wherein the supplying and coating means has a nozzle having an opening in the form of a slit for supplying the coating material toward the outer peripheral surface and coating the coating material thereon and the opening of the nozzle is disposed in nearly vertical direction with the position of the upper end of the opening being nearly the same as the position of the upper end of the pillar structure and, and the smoothing means has a length in longer direction which is not shorter than the length between the both ends of the pillar structure and is disposed in nearly vertical direction in such a state as keeping a given distance from the outer peripheral surface or contacting with the outer peripheral surface, and wherein the coating material is supplied from the opening of the nozzle to the upper side of the outer peripheral surface of the pillar structure and coated thereon, and the coating surface of the coating material supplied and coated is smoothed between the outer peripheral surface and the longer side end portion of the smoothing means to form a uniform coating surface on the whole outer peripheral surface of the pillar structure. Japan '727 teaches the length of the pillar structure being coated by the coating apparatus varies and teaches at least one of the upper and lower pallet is vertically movable obviously to accommodate substrate having different length to be held there between. Japan '727 fails to teach the length of the nozzle opening along its longitudinal axis is less than or is shorter than the length between the both ends of the pillar structure. Therefore, given the silence of Japan '727 of changing the nozzle

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assembly to correspond to a different length of structure to be coated, it would have been prima facie obvious to provide the Japan '727 nozzle assembly with a length that is shorter than some of the taller length structures to be coated in order prevent coating of the support structure which includes the upper and lower pallet when supporting the shorter length structures. Japan '727 is capable of coating a structure within the scope of claim since it teaches every claimed element of the apparatus. Thus claim 15 is obvious over Japan '727. With respect to claim 17, Japan '727 apparatus is capable of holding elongate structures having a range of different lengths including one wherein the length of the nozzle relative to elongate structure is within the scope of the claim via height adjustment of the at least one of the upper and lower pallet. With respect to claim 18, Japan '727 teaches the holding means has a pedestal which holds the pillar structure in the vertical direction placed thereon with one end thereof facing downward. With respect to claim 19, Japan '727 teaches the holding means has a cam which presses downwardly another end of the pillar structure held on the pedestal and rotates on the axis of the nearly vertical direction as a common rotating axis. With respect to claim 20, Japan '727 teaches the outer peripheral shape of the pedestal and that of the cam are nearly the same. With respect to claim 21, Japan '727 teaches the apparatus is further comprised of a centering means which holds the pillar structure and the pedestal and/or the cam in a given positional relation. With respect to claim 22, Japan '727 teaches the apparatus is further comprised of a following means as shown in Figure 2 which drives the smoothing means following the outer periphery of the pedestal and/or the cam so that the smoothing means is disposed at a given position with respect to the

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outer peripheral surface of the pillar structure. With respect to claim 23, Japan '727 teaches the following means has first and second following rollers which are disposed at a given distance from each other and move backward and forward following the outer periphery of the cam while contacting with the outer periphery of the cam together with the supplying and coating means and the smoothing means, and the first and second following rollers are disposed so that the angle formed by a line passing through the centers of the respective rollers and the smoothing means is a given angle. With respect to claim 24, Japan '727 teaches the following means further has third and fourth following rollers which move backward and forward following the outer periphery of the pedestal while contacting with the outer periphery of the pedestal together with the supplying and coating means and the smoothing means, and the rotating axis of the third following roller and that of the first following roller are common and the rotating axis of the fourth following roller and that of the second following roller are common. With respect to claim 25, Japan '727 teaches the outer periphery of the pedestal and/or the cam is comprised of a stainless steel or ceramics. With respect to claim 26, Japan '727 teaches the smoothing means comprises stainless steel or wear-resistant ceramics. With respect to claim 27, Japan '727 teaches the shape of a section of the pillar structure cut along a plane perpendicular to the direction of the central axis of the pillar structure is circular or elliptical. With respect to claim 28, Japan '727 is capable of coating a pillar structure which is a honeycomb structure comprising a plurality of cells which serve as flow paths for fluid since it teaches every element of the claimed apparatus. With respect to claim 29, Japan '727 teaches the supplying and coating

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means and the smoothing means can rotate together along the outer periphery of the pillar structure. With respect to claim 30, Japan '727 teaches a method for coating outer peripheral surface of a pillar structure wherein the method is comprised of the following steps of holding the pillar structure by the holding means, the supplying and coating means on the outer peripheral surface of the pillar structure and coating the coating material thereon while rotating the pillar structure and the holding means on the axis of nearly vertical direction as a common rotating axis, and smoothing the coating surface of the supplied and coated coating material between the outer peripheral surface and the longer side end portion of the smoothing means. Japan '727 fails to teach the length of the nozzle opening along its longitudinal axis is less than or is shorter than the length between the both ends of the pillar structure. Therefore, given the silence of Japan '727 of changing the nozzle assembly to correspond to a different length of structure to be coated, it would have been prima facie obvious to provide the Japan '727 nozzle assembly with a length that is shorter than some of the taller length structures to be coated in order prevent coating of the support structure which includes the upper and lower pallet when supporting the shorter length structures.

Claims 16-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 08-323727 in view of Shibata et al 5,435,847.

Japan '727 is applied for the reasons noted above but fails to teach the length of the nozzle opening along its longitudinal axis is less than or is shorter than the length between the both ends of the structure. However, it would have been obvious to modify the Japan '727 coating apparatus by providing the nozzle assembly with an adjustment

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means for adjusting the length of the coating slot opening which includes inserts arranged at either end of the slot such as taught by Shibata et al such that the length of the nozzle opening along its longitudinal axis is less than or is shorter than the length of the structure being held by the holding means for the obvious advantage of greater control of the dispensing of the coating film onto the substrate. With respect to claim 17, Japan '727 apparatus is capable of holding elongate structures having a range of different lengths including one wherein the length of the nozzle opening relative to elongate structure is within the scope of the claim via height adjustment of the at least one of the upper and lower pallet. Further, it would have been obvious given the modifications of the Japan '727 apparatus as discussed above with the combination of Shibata et al inserts arranged therein to adjust the length of the nozzle slot opening and Japan '727 height adjustment of the at least one of the upper and lower pallet of its holding means which enables one to hold a variety of lengths of substrate would enable one to adjust the length of the slot opening relative to the substrate such that it is within the scope of the claim and obvious to do so for the greater control of the dispensing of the coating film onto the substrate. With respect to claim 18, Japan '727 teaches the holding means has a pedestal which holds the pillar structure in the vertical direction placed thereon with one end thereof facing downward. With respect to claim 19, Japan '727 teaches the holding means has a cam which presses downwardly another end of the pillar structure held on the pedestal and rotates on the axis of the nearly vertical direction as a common rotating axis. With respect to claim 20, Japan '727 teaches the outer peripheral shape of the pedestal and that of the cam are nearly the same. With

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respect to claim 21, Japan '727 teaches the apparatus is further comprised of a centering means which holds the pillar structure and the pedestal and/or the cam in a given positional relation. With respect to claim 22, Japan '727 teaches the apparatus is further comprised of a following means as shown in Figure 2 which drives the smoothing means following the outer periphery of the pedestal and/or the cam so that the smoothing means is disposed at a given position with respect to the outer peripheral surface of the pillar structure. With respect to claim 23, Japan '727 teaches the following means has first and second following rollers which are disposed at a given distance from each other and move backward and forward following the outer periphery of the cam while contacting with the outer periphery of the cam together with the supplying and coating means and the smoothing means, and the first and second following rollers are disposed so that the angle formed by a line passing through the centers of the respective rollers and the smoothing means is a given angle. With respect to claim 24, Japan '727 teaches the following means further has third and fourth following rollers which move backward and forward following the outer periphery of the pedestal while contacting with the outer periphery of the pedestal together with the supplying and coating means and the smoothing means, and the rotating axis of the third following roller and that of the first following roller are common and the rotating axis of the fourth following roller and that of the second following roller are common. With respect to claim 25, Japan '727 teaches the outer periphery of the pedestal and/or the cam is comprised of a stainless steel or ceramics. With respect to claim 26, Japan '727 teaches the smoothing means comprises stainless steel or wear-resistant ceramics. With respect to

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claim 27, Japan '727 teaches the shape of a section of the pillar structure cut along a plane perpendicular to the direction of the central axis of the pillar structure is circular or elliptical. With respect to claim 28, Japan '727 is capable of coating a pillar structure which is a honeycomb structure comprising a plurality of cells which serve as flow paths for fluid since it teaches every element of the claimed apparatus. With respect to claim 29, Japan '727 teaches the supplying and coating means and the smoothing means can rotate together along the outer periphery of the pillar structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda A. Lamb whose telephone number is (571) 272-1231. The examiner can normally be reached on Monday-Tuesday and Thursday-Friday with alternate Wednesdays off.

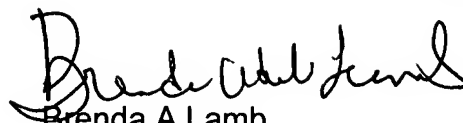
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Tucker, can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Brenda A Lamb". The signature is fluid and cursive, with the first name "Brenda" being more prominent than the last name "Lamb".

Brenda A Lamb

Examiner

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